

Effects of Sexual Arousal on Commitment:  
The Moderating Role of the Arousing Source

By

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### **Abstract**

Being sexually aroused by one's partner is likely to increase one's commitment to the partner; whereas being aroused by an alternative mate might decrease it. These patterns are conceivably moderated by satisfaction from one's romantic relationship—higher satisfaction is likely to result with higher commitment when sexually aroused, whereas lower satisfaction is likely to result with lower commitment. I tested these predictions in two studies focusing on the sense of relationship commitment after sexual priming. In Study 1, thinking about having sex lead participants high on satisfaction to report higher commitment to their partner regardless of the source of arousal they were exposed to (partner/alternative). Conversely, participants low on satisfaction reported higher commitment after being sexually primed with their partner and lower commitment after being sexually primed with an alternative; however these trends were not significant. When thinking about playing badminton with someone, those high on satisfaction reported higher commitment regardless of relational context (partner/alternative), whereas those low on satisfaction reported higher commitment only when thinking about their partner. Study 2 focused on shame and guilt as underlying mechanisms to explain the Study 1 findings. Results supported my initial prediction about prime, context and satisfaction. However, feeling shame and guilt did not mediate the association between sexual arousal, target of arousal (partner/alternative), and commitment. Implications for sexual activation, commitment, and close relationships in general are discussed.

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## Table of Contents

Abstract.....	iii
Acknowledgments.....	iv
Table of Contents.....	v
Introduction.....	1
Study 1.....	10
Study 2.....	19
General Discussion.....	26
References.....	35
Footnotes.....	47
Appendix 1.....	48
Appendix 2.....	49
Appendix 3.....	50
Appendix 4.....	51
Appendix 5.....	53
Appendix 6.....	54
Appendix 7.....	55
Appendix 8.....	56

## Introduction

Activating the sexual behavioral system triggers three goals: relationship seeking/initiation, relationship maintenance, and motivation for sex (Birnbaum & Gillath, 2006; Gillath, Mikulincer, Birnbaum, & Shaver, 2008). Gillath and colleagues (2008) provide initial support for this claim. They found that exposing people to sexual cues results with a higher inclination to exhibit initiation- and maintenance-related behaviors, such as self-disclosure and the willingness to compromise with one's partner. These two goals (initiation and maintenance) can work together: First, being sexually aroused, one initiates a new relationship. Then, once in a relationship, sexual arousal motivates the person to behave in ways that would maintain that relationship. However, this is not the only way these two systems can work. For example, once in a relationship, exposure to an attractive alternative mate might activate the initiation goal, which in turn may motivate the person to start a new relationship. This motivation contradicts the motivation generated by the maintenance goal- guiding people to maintain their existing relationship. There is no research to date, to my knowledge, which examines the factors determining which of the two goals (initiation and maintenance) guides already coupled people when they are sexually aroused.

One factor that is likely to affect the activation of these goals is the source of sexual arousal—whether the sexual system is activated by one's own partner, an alternative mate, or a non-specific source (e.g., the word "sex"). Sexual arousal associated with one's partner is likely to increase the activation of maintenance goals, whereas sexual arousal linked to an alternative mate is likely to decrease the activation of maintenance and increase activation of initiation goals.

In the present studies, I measured relationship commitment to capture these tendencies. Commitment, which is associated with relationship longevity and stability (e.g., Impett, Beals, &

Peplau, 2001; Le & Agnew, 2003; Rhoades, Stanley, & Markman, 2010), tends to increase when people strive to maintain their existing relationship and decrease when they seek a new relationship. In the current project I examined the role of the source of arousal in activating sexual system goals and the effects of this activation on commitment.

### **Initiating and Maintaining a Romantic Relationship as Goals of the Sexual System**

A behavioral system is a species-specific set of mechanisms that operate in order to attain a specific goal (Bowlby, 1982; Mikulincer & Shaver, 2007). The ultimate goal of the sexual behavioral system is to procreate, and in order to achieve that goal, the system activates subgoals such as relationship initiation and relationship maintenance (Birnbaum & Gillath, 2006). When the *initiation goal* is activated, people are motivated to seek out and initiate relations with a partner (Gillath et al., 2008). From an evolutionary standpoint, finding a partner is necessary to allow people (similarly to other sexual organisms) to mate, have offspring, and pass their genes (Buss, 2011). Those who were better at finding someone were more likely to survive, which suggests that throughout the years humans have evolved relationship seeking or initiating mechanisms to allow them find a mate, copulate, and reproduce (Bazzini & Shaffer, 1999; Birnbaum & Gillath, 2006; Stone, Shackelford, & Goetz, 2011). As a part of these mechanisms, people are thought to have evolved goal-directed behaviors which guide people to initiate new relationships when they are sexually aroused. When one does not have a partner, this motivation and the resulting behaviors increase the chances that a mate will be found and copulation will take place.

Activation of the initiation goal influences not only behaviors but also various cognitive processes such as attention and memory. For example, it affects one's tendency to pay attention to other mates, the perception of alternatives and one's current mate as attractive or not, and the

level of commitment to one's current mate. Bazzini and Shaffer (1999) provided evidence for this, showing that nonexclusive daters increased the attractiveness and romantic appeal of an available alternative mate. Similarly, Maner, Gailliot, Rouby, and Miller (2007) found that participants primed with sexually arousing stimuli increased in the tendency to fixate on physically attractive opposite-sex targets. These studies support the existence of relationship initiation/seeking goals and the effects of these goals on related processes and behaviors.

When people are already in a romantic relationship, however, the initiation goal may have a different function or role—initiating a new, better relationship. Mating with a *superior* partner (e.g., higher mate value; Jonason & Buss, 2012) can increase the likelihood of having an offspring with higher survivability, which in turn increases the sustainability of one's own genes. In other words, selecting a new partner with better genes over a current partner with not as good genes can be adaptive. For example, the "good genes" model (Andersson & Simmons, 2006) proposes that female choice in mate selection is explained by indirect benefits of males' genetic quality. People do not have to have a full-blown romantic relationship to obtain the 'better' genes of the alternative mate. However, if they want to have access to these genes on a regular basis, as well as enjoy other potential advantages of this 'superior' mate, developing a relationship with this person is likely most effective.

On the other hand, when the *maintenance goal* is activated, people are motivated to sustain their current relationship. From an evolutionary perspective (e.g., Buss, 2011), it is adaptive to stay in a relationship with one's current partner because it allows both parents to take care of the offspring, increasing the chances of survival and the likelihood of passing forward the genes (Gillath et al., 2008). Some circumstances present even more advantages to continue an existing relationship. For example, one may have invested a high amount in the relationship and



be receiving many rewards from the relationship. In this case, switching partners will be more costly than staying in the relationship (see Rusbult's [1993] investment model for more discussion on investment, satisfaction, and commitment). In such situations people already in a relationship would be more likely to be motivated to maintain their relationship with their existing partner and behave in ways that would facilitate that. In support of this idea, Meyer, Berkman, Karremans, & Lieberman (2011) found that romantically involved participants implicitly derogate the attractiveness of alternative mates, which should make their current partners look more appealing and increase the chances of relationship maintenance.

Similarly to initiation-related mechanisms, throughout the years humans have evolved relationship maintenance mechanisms due to their potential advantages. Once activated, these mechanisms induce cognitive processes that increase relationship maintenance cognitions and behaviors, such as commitment and support. These, in turn, boost an existing relationship and guard it from negative influences (Gonzaga, Haselton, Smurda, Davies, & Poore, 2008; Karremans & Verwijmeren, 2008). For example, Maner et al. (2007) showed that people motivated to maintain their relationship (i.e., committed people) displayed reduced attention to highly attractive alternatives. In addition, higher relationship commitment has been associated with greater cognitive avoidance when participants were presented with attractive alternatives (Miller, Prokosch, & Maner, 2011). These findings support the existence of relationship maintenance mechanisms and goals and their association with processes such as commitment, which is especially relevant to the current studies.

### **Commitment**

Defined as a psychological state, commitment represents attachment to a relationship, the intention to persist in the relationship, and a long-term orientation regarding the relationship

(Arriaga & Agnew, 2001). True to this definition, commitment is negatively associated with relationship dissolution (e.g., Impett, Beals, & Peplau, 2001; Le & Agnew, 2003; Rhoades et al., 2010). It promotes relationship maintenance behaviors such as forgiveness (Finkel, Rusbult, Kumashiro, & Hannon, 2002), the inhibition of aggression (Slotter et al., 2012), more accommodative behavior and trust (Wieselquist, Rusbult, Foster, & Agnew, 1999), and higher willingness to sacrifice for one's partner (Rusbult, Drigotas, & Verette, 1994). All of these promote long-term relationships, greater relationship persistence, and greater relationship satisfaction (e.g., Le & Agnew, 2003).

Commitment has repeatedly been shown to associate with various sex-related variables. For example, sexual satisfaction predicts relationship stability and commitment in couples (Sprecher, 2002). In a multiple wave study, Sprecher found that at each time point, sexual satisfaction was positively associated with relationship commitment for both partners and changes in sexual satisfaction across time were correlated with later changes in commitment. Sexual activity is perceived as an important component of long-term marriages and functions to convey commitment and trust to one's partner (Hinchliff & Gott, 2004). More recently, Little, McNulty, and Russell (2010) showed that having more sex seemed to buffer against the effects of insecurity, implying sex can maintain or increase commitment.

Sex, however, can also hamper commitment or decrease it. Thus, extramarital sex or sex outside the relationship was found to be associated with lower commitment (e.g., Beach, Jouriles & O'Leary, 1985). Beach and colleagues showed that among couples seeking marital therapy, those with problems involving extramarital sex indicated either lowered commitment, elevated depression, or both—importantly, the partner engaging in the extramarital sex was more likely to show the lower levels of commitment. These findings, which further support the association

between sex and commitment, highlight the need to take the source of sexual arousal into account when examining the associations between sexual arousal and commitment (or any other relational variable).

Although providing support for the general association between sex and commitment, the studies mentioned above do not provide any information on which goals of the sexual system are being activated (i.e., initiation/maintenance), and how the activation of these goals are connected to commitment. Studies using experimental design provide more information on these links. For example, Maner et al. (2007) showed that after a sexually arousing prime, participants with an unrestricted sociosexual orientation increased attention to attractive opposite-sex targets. This escalated attention suggests high seeking and initiation behavior and potentially lower commitment (although commitment was not directly assessed).

### **Commitment and Relationship Goals**

Some initial evidence exists to support the idea that when the seeking/initiation goal is activated, especially among people already in a relationship, a decrease in the level of commitment occurs. For example, Foster, Shrira, and Campbell (2006) reported that unrestricted sociosexuality, which indicates higher endorsement of relationship seeking goals, was associated with low relationship commitment among people in a romantic relationship. Similarly, Miller (1997) found that people in a relationship who are more attentive to alternatives, which reflects greater seeking goals, tend to report lower commitment. Alternatively, when the maintenance goal is activated, commitment is likely to increase. Ogolsky (2009) provides indirect evidence to support this by showing that perceptions of partner's relationship maintenance behaviors predicted commitment in same-sex couples. In addition, Wieselquist and colleagues (1999) found that perceiving one's partner to perform pro-relationship behaviors, such as

accommodative acts, increased commitment in heterosexual couples. These studies show that measuring commitment is one way to assess the activation of relationship goals.

### **Satisfaction**

Relationship satisfaction is defined as the difference between positive and negative affect one experiences in a relationship (Rusbult, 1998). How satisfied one is in his or her relationship is also likely to be a determining factor when investigating how different sources of sexual arousal activate relationship maintenance/initiation goals. For example, previous studies provide ample support for the activation of maintenance goals in already happily committed people. They suggest that people who are satisfied with their current partner tend to have a strong intrinsic motivation to ward off alternatives and stay committed to their partner. Satisfied people perceive alternatives to have lower physical and sexual attractiveness (Simpson, Gangestad, & Lerma, 1990) and are less attentive to alternatives in both explicit/conscious (Miller, 1997) and implicit/automatic (Miller et al., 2008) levels.

The calibration paradigm literature (Lydon, Fitzsimons, & Naidoo, 2003; Lydon, Meana, Sepinwall, Richards, & Mayman 1999) also highlights the role of satisfaction in relationship goals. In Lydon and colleagues' studies (2003; 1999), a person's prior level of commitment and the level of threat from alternatives jointly determined whether relationship maintenance or initiation goals were activated. Lydon and colleagues did not directly measure how threatened participants felt, but rather arbitrarily defined different levels of threat. However, their research implies that to the same level of threat, less satisfied people will activate initiation goals and more satisfied people will activate maintenance goals, which has important implications for my studies.

Similarly, Brehm's theory of motivational intensity proposes that one's motivation is jointly determined by the perceived benefits from reaching a goal and difficulty in doing so. Motivation to attain a goal increases with perceived difficulty up to a certain point, on which the individual decides the goal is not worth the effort, and subsequently decreases motivation. Following this account, if relationship maintenance is a goal, then those highly satisfied in their relationship will see the benefits of continuing it as greater. Conversely, those with low satisfaction might perceive relationship maintenance as a less valuable outcome and thus be less motivated to engage in it. This theoretical framework suggests how satisfaction may be an additional determining factor in activating relationship goals. None of these other studies, however, activated the sexual system.

### **Present Project**

Directly related to the current studies, Gillath et al. (2008) provided initial evidence that the activation of the sexual system results with behaviors associated with both initiation and maintenance goals. The researchers suggested that exposure to sexual cues activates the sexual behavioral system and its subgoals. Supporting their claim, and using a subliminal sexual prime, they found that such exposure resulted in higher self-disclosure and accessibility of intimacy-related thoughts (seeking/initiation goals) and a greater tendency to sacrifice and resolve conflicts using positive strategies (maintenance goals). This suggests the activation of the sexual system results in heightened motivation either to initiate a new relationship or maintain an existing relationship (see Maner et al., 2005; Stephan, Berscheid, & Walster, 1971, for similar results about the initiation of relationships). Gillath and colleagues, however, did not assess commitment nor compared different sources of sexual arousal.

Whereas Gillath et al. (2008) showed that once people are sexually aroused they may

engage in either relationship initiation or relationship maintenance goals, other studies have suggested that each goal is likely to be activated under different circumstances (e.g., Lydon et al., 2003; 1999). For example, Lydon and colleagues (2003) suggest that both the amount of threat posed by a potential mate and the perceiver's commitment level to his/her existing mate affect which goal will be activated or pursued. If the level of threat is higher than the level of commitment, the perceiver succumbs to the threat and initiation goals are activated. If the level of threat equals the level of commitment, maintenance goals are activated as a defense mechanism. If the level of threat is lower than the commitment level, the threat is deemed insufficient for any defense to occur and neither goals are stimulated. The researchers, however, did not actually activate the sexual system, and did not compare the source of the arousal—they always looked at the effects of an alternative mate.

The studies reviewed above suggest that sexual arousal is likely to result in activation of relationship goals and change in level of commitment. Furthermore, they suggest that contextual cues are likely to modify the effects of sexual arousal on goal activation and in turn commitment. Thus, in situations that are conducive to seeking out new relationships, sexual arousal will stir relationship seeking goals. Alternatively, in situations that it is advantageous to sustain one's existing relationship, sexual arousal is likely to propel relationship maintenance goals.

In the current project I broaden this line of research by suggesting a different moderator to explain which goal (initiation or maintenance) will be pursued, and especially by people already engaged in a romantic relationship. This moderator is the source of the arousal. The source of sexual arousal has been the topic of numerous previous studies. Scholars have examined the effects of sexual stimuli differing in their level of erotic (Baron & Bell, 1977), the medium of sexual stimulus—for example, sexual fantasies versus erotic video/audios (Morokoff,

1985; Stock & Geer, 1982), the level of awareness to the source of arousal—subliminal vs. supraliminal activation (e.g., Gillath & Canterbury, 2012), and the figures associated with the source—for example, male alone, female alone, man and woman together, two women, etc. (Chivers, Rieger, Latty, & Bailey, 2004). However, none of these studies have investigated whether different sources of sexual arousal have contrasting or similar effects on relationship commitment in couples. In the current project I therefore distinguish one's partner from an alternative as the source of sexual arousal. Specifically, I tested whether for people in a relationship, being sexually aroused by their partner versus an alternative mate will lead to the activation of initiation goals and consequently decrease commitment, or to the activation of maintenance goals and hence increase commitment. In addition, due to the literature on satisfaction and activation of maintenance mechanisms (e.g., Lydon, 2003; Maner et al., 2007), I predicted that the effects of different sources (partner vs. alternative) of arousal will be moderated by one's level of relationship satisfaction.

### **Study 1**

The goal of the first study was to examine the effects of sexual arousal on activation of relationship goals (initiation/maintenance) as reflected in levels of commitment. To do that, I used an explicit visual stimulus (sexual or neutral) and guided imagery to prime participants to think about sex. Sex was associated with their partner or an alternative mate. Specifically, participants were exposed to one of four primes: partner sexual, partner nonsexual, alternative sexual, and alternative nonsexual. Following the prime, I assessed commitment and satisfaction using a self-report measure. I expected that (1) exposure to sexual primes will increase commitment when it is associated with one's partner, regardless of satisfaction. Conversely, (2) exposure to sexual primes in the context of an alternative will lead to lower commitment among

those low on satisfaction, and higher commitment among those high on satisfaction. (3)

Exposure to nonsexual context will affect commitment as a function of satisfaction, regardless of the target (partner/alternative). Among people low on satisfaction, playing badminton with either their partner or an alternative will result with low commitment compared to those high on satisfaction.

## **Method**

**Participants.** Seventy undergraduates (38 women) participated in the study for course credit. Their age ranged from 18 to 38 years ( $M = 19.94$ ,  $SD = 2.83$ ) and they were predominantly (80.3%) White. All except one (who did not indicate relationship length) were in an exclusive committed relationship for at least three months, ranging from 4 to 80 months ( $M = 25.12$ ,  $SD = 17.87$ ). One participant did not indicate sexual orientation, two participants indicated their sexual orientation as homosexual, and one participant indicated her sexual orientation as bisexual. As I was using pictures of coupled men and women as my primes, I excluded these participants from the analysis. Three other participants were excluded because they were outliers in the main analysis. The final sample consisted of 63 people (35 women), aged 18-38 ( $M = 19.98$ ,  $SD = 2.93$ ) and in a relationship for an average of 24.94 months ( $SD = 17.75$ , length ranged from 4 to 80 months). On average, participants had 2.72 relationships in the past ( $SD = 2.47$ ) and 1.55 ( $SD = 1.37$ ) of them which lasted over 3 months.

**Materials and procedure.** I informed participants that they would be partaking in a study on mental engagement and relationships. After consenting, participants viewed a full color picture of a man and a women engaging in either sexual or nonsexual activity. This picture served as the sexual or nonsexual prime. The researcher then read to the participant either one of two verbal instructions. These instructions served as the partner or alternative context prime.



Instructions for the partner context condition directed participants to mentally engage in the picture by imagining the same-sex person in the picture as themselves, and the opposite-sex person in the picture as their romantic partner. Instructions for the alternative context condition directed participants to imagine the same-sex person as themselves and the opposite-sex person as someone they have been seeing every morning as they went to class.

The researcher also told participants that they would later answer questions about the ease of mental engagement and recall what they saw in the picture. After engaging in the task for two minutes (with the research assistant absent from the room) participants completed a battery of questionnaires. The battery contained questions on ease of mental engagement, sexual arousal, and memory of the picture. It also included the Perceived Relationship Quality Components (PRQC; Fletcher, Simpson, & Thomas, 2000) scale, the Brief Mood Inspection Scale (BMIS; Mayer & Gaschke, 1988), demographic questions, questions about study instructions, and additional questions soliciting study feedback. The participants were then orally debriefed and dismissed.

***Sexual and control stimuli.*** The picture used for the sexual condition consisted of a man and a woman both scantily clothed and having sex on a kitchen counter (see Appendix 1). The picture used in the nonsexual/control condition consisted of a man and a woman fully clothed and playing badminton as part of the same team (see Appendix 1). The sexual picture was taken from a scene in the R-rated TV series "Femme Fatales" (2011). The neutral picture was obtained from the Internet. Both pictures were pretested using a sample of 11 people (6 women, age 18-21) and matched on the level of activeness,  $t(10) = -.25, p = .81$ , positivity,  $t(10) = -.50, p = .63$ , negativity,  $t(10) = -.25, p = .81$ , likability,  $t(10) = -1.53, p = .16$ , interest,  $t(10) = -2.17, p = .06$ , ease of following/understanding,  $t(10) = .67, p = .52$ , attractiveness of the woman,  $t(10) = -1.99$ ,

$p = .07$ , attractiveness of the man,  $t(10) = -.90$ ,  $p = .39$ . Importantly, they differed on sexual arousal,  $t(10) = -5.65$ ,  $p < .001$ , such that the sexual picture was rated as more arousing ( $M = 5.8$ ,  $SD = .84$ ) than the neutral one ( $M = 3.4$ ,  $SD = .89$ ).

**Manipulation check.** Participants answered a question about how easy it was to mentally engage in the picture using the given instructions. They responded on a 7-point Likert scale, ranging from 1 (*Not at all*) to 7 (*Extremely*). Another question using the same response scale, asked “As of now, how sexually aroused do you feel?”. Participants' answers on this question were used as a manipulation check for the sexual prime condition in the analysis. The third question asked participants to describe the picture, being as detailed as possible, to the best of the participant's memory. Participants were given half a page to write down the requested information. I used this to lengthen the effect of the prime. (See Appendix 2 for complete list of questions used.)

**Commitment.** I used the PRQC (Fletcher et al., 2000) to assess commitment after the prime. The PRQC is an 18-item self-report measure that assesses relationship satisfaction and commitment, among other constructs. Each component consists of three items. For example, the three commitment items are: "How committed are you to your relationship?", "How dedicated are you to your relationship?", and "How devoted are you to your relationship?". Participants rate these items in regard to their current romantic relationship on a 7-point Likert scale, ranging from 1 (*Not at all*) to 7 (*Extremely*). Scores for each construct are calculated by averaging the ratings of the three respective items. I also used the satisfaction items in this measure to assess satisfaction. The Cronbach alphas for commitment and satisfaction were .93 and .92.

**Mood and arousal.** The BMIS (Mayer & Gaschke, 1988) is a 16-item self-report measure of present emotional state. Items measure both mood valence (e.g., content, happy,

loving) and arousal (e.g., active, lively, peppy). Participants indicate how much an item represents their present mood on a 4-point Meddis response scale. I calculated mood valence (pleasant-unpleasant mood) and later included it as a covariate in the analysis.

***Demographic questions.*** In the next section, participants indicated their age, gender, ethnicity, if they are currently in a relationship, the length of their current relationship, how many other relationships they have had in the past, and of those prior relationships how many had lasted over three months. In addition, I included an open-ended question asking participants to write down what they thought was the purpose of the study, because knowing the purpose of the study may bias replies and contaminate the results. None of the participants accurately guessed the goal of the study. (See Appendix 6 for the list of questions used).

***Debriefing and post-debriefing questions.*** Participants were questioned on which picture they viewed and how they were asked to view the picture. Of the 60 participants who answered these, all correctly indicated the picture that they viewed, and 55 correctly indicated which mental engagement instructions they were given. Two questions each asked how well the participants thought they followed the instructions when they viewed the picture and how difficult it was to follow the instructions when they viewed the picture. They responded on a 7-point Likert scale ranging from 1 (*Not well at all*) to 7 (*Very well*). Controlling for these two questions in the analysis did not lead to difference in the results. The last question asked participants to write down what they were thinking when they mentally engaged in the picture. Participants' answers on these questions were coded on two dimensions: sexual-nonsexual and partner-alternative, and were compared to the actual conditions, to yield a binary compliance value. Controlling for this variable in the final analysis increased the significance of the results but did not change the pattern. (see Appendix 7 for the list of questions used).

## Results

**Preliminary analysis: Ease of mental engagement and sexual arousal.** I conducted a two-way analysis of variance (ANOVA) on the 66 heterosexual participants with ease of mental engagement as the dependent variable and sexual prime type (sexual vs. nonsexual/neutral) and relational context (partner vs. alternative) as independent variables. This analysis was done to check whether the ease of mentally engaging in the primes differed among the four separate conditions. None of the main effects of sexual prime, relational context, or their interaction on ease of mental engagement was significant (all  $F_s < 3.61$ ,  $p_s > .06$ ).

I conducted another ANOVA with sexual arousal as the dependent variable and sexual content and relational context as independent variables to see whether the sexual primes increased sexual arousal as they were supposed to. This analysis revealed a main effect of prime type,  $F(1, 59) = 24.32$ ,  $p < .001$ , such that participants in the sexual condition reported higher feelings of sexual arousal ( $M = 3.07$ ,  $SD = 1.61$ ) than participants in the nonsexual condition ( $M = 1.49$ ,  $SD = .92$ ). There were neither main effects of relational context nor an interaction effect.

**Main analysis.** To test the effects of prime type, relational context, and satisfaction on commitment, I ran a hierarchical regression analysis with commitment as the dependent variable. Three participants were excluded from the analysis because they were outliers on commitment (defined as being more than three standard deviations from the mean of the condition). I entered gender in the first step to control for possible gender effects, as there tend to be gender differences in measures of sexuality (such as attitudes about uncommitted sex; Hyde, 2005) and sexual arousal (Murnen & Stockton, 1997)<sup>1</sup>. In the second step, I entered prime type (sexual/neutral), context (relational/non-relational), and satisfaction. In the third step I entered the two-way interactions of sexual prime and relational context, sexual prime and satisfaction,

and relational context and satisfaction. In the fourth step I entered the three-way interaction of sexual prime, relational context, and satisfaction.<sup>2</sup>

The analysis revealed a main effect for gender, such that women ( $M = 6.70, SD = .76$ ) reported greater commitment than men ( $M = 6.10, SD = 1.20$ ),  $B = .26, p = .03$ , in line with previous findings (Le & Agnew, 2003). A main effect was also revealed for satisfaction, such that participants with higher satisfaction reported greater commitment,  $B = .76, p < .001$ , as was expected. There was also a main effect of relational context, such that participants in the partner condition reported higher commitment ( $M = 6.65, SD = .83$ ) than those in the alternative condition ( $M = 6.23, SD = 1.14$ ),  $B = .30, p = .02$ . The interaction of sexual prime and satisfaction was also significant,  $B = .35, p = .004$ , as was the interaction between context and satisfaction,  $B = -.30, p = .009$ . These interactions were qualified by the expected three-way interaction between prime type, context, and satisfaction,  $B = .76, p = .007$  (see Table 1 and Figure 1). There were no other significant main effects or interactions.<sup>3</sup>

To test my hypotheses I probed the three-way interaction, by conducting a separate regression analysis on each prime condition (sexual vs. nonsexual). With regard to the first hypothesis, the results showed that when primed with having sex, satisfaction significantly predicted commitment, in that those low on satisfaction reported lower commitment ( $M = 5.11, SD = 1.35$ ) than those high on it ( $M = 6.88, SD = .28$ ),  $B = .84, p < .001$ . In addition, although not significant ( $B = -.05, p = .74$ ), I used the web-calculator provided by Preacher, Curran, and Bauer (2006) to further probe the interaction between relational context and satisfaction within the sexual priming condition. When participants thought of having sex with their partner, those low on satisfaction reported higher (although not statistically significant) commitment ( $M = 5.2, SD = 1.39$ ) compared to when they thought of having sex with an alternative ( $M = 5, SD = 1.52$ ). This

supports Hypothesis 1, which predicted a positive effect of sexual prime on commitment in the partner condition.

With regard to the second hypothesis, thinking about having sex with an alternative mate led to low commitment ( $M = 5$ ,  $SD = 1.52$ ) among those low on satisfaction, and high commitment ( $M = 6.88$ ,  $SD = .31$ ) among those high on satisfaction, supporting my second prediction. In regard to Hypothesis 3, contrary to my prediction I found that under a nonsexual prime, relationship context and satisfaction had an interaction effect on participants' commitment. People low on satisfaction did not report low commitment regardless of relational context as predicted. Rather, when they thought about playing with their partner they reported high commitment ( $M = 7$ ,  $SD = .00$ ), and when thinking about an alternative they reported low commitment ( $M = 5.53$ ,  $SD = 1.16$ ). People high on satisfaction reported high commitment regardless of being primed with their partner ( $M = 6.91$ ,  $SD = .15$ ) or an alternative ( $M = 7$ ,  $SD = .00$ ). Controlling for mood and general arousal in the regression resulted with similar outcomes, ruling out the possibility that my results are simply due to mood or arousal activated by the primes.

## **Discussion**

Validating my methodology, the preliminary analysis showed that the primes I used succeeded in increasing sexual arousal in the appropriate condition. Furthermore, there were no differences in participants' reports between conditions on the difficulty engaging in the primes.

Testing my main hypotheses, I found that as expected, the source of arousal moderated the associations between sexual arousal and satisfaction on commitment. As predicted, I found that commitment depended on satisfaction level. When thinking of having sex with an alternative mate, those low on satisfaction reported low commitment as compared with those high on

satisfaction, supporting my second hypothesis. For those high on satisfaction, commitment was high whether they were aroused by their partner or an alternative. This pattern also appeared when participants imagined playing badminton with an alternative, which supports my third hypothesis. However, when participants thought of playing badminton with their partner, satisfaction was irrelevant to commitment, which does not support my third hypothesis.

My results support the proposition that highly satisfied people have relationship maintenance mechanisms that are activated when they are sexually aroused by an alternative [similar to what happened to coupled people in Maner et al., (2007)]. However, what specific processes underlie these mechanisms is still unknown. One factor that contributes to relationship maintenance may be the emotions evoked by an attractive alternative. Consciously thinking about having sex with an alternative (cheating on your partner), is likely to induce feelings of shame and guilt in highly satisfied people. People do not like feeling bad about themselves (e.g., Aramakis, Khamba, MacLeod, Poulos, & Zack, 2012), and hence are motivated to take action to get rid of those negative feelings (e.g., DeHart, Tennen, Armeli, Todd, & Affleck, 2008). One way to do this would be by presenting oneself as highly committed and reporting higher commitment on our measure. I decided to test this proposition in Study 2.

Unexpectedly, participants who were lower on satisfaction reported higher commitment when thinking of playing badminton with their partner compared to the three other conditions. Although this result is difficult to explain, it may be the case that picturing playing badminton with your partner activated self-expansion processes (Aron & Aron, 2005). These processes are stimulated by participating in novel and physically arousing activities with your partner and increase relationship quality (Aron, Norman, Aron, McKenna, & Heyman, 2000). As commitment is a part of relationship quality, this process may have resulted with an increased

sense of commitment to their partner. On the other hand, the high commitment reported by less satisfied participants in the nonsexual alternative condition may be due to an error. If so, these results would not be replicated in the second study.

Study 2 will also serve to retest my first hypothesis, which was not fully supported in Study 1. While the means in Study 1 depicted a pattern in line with my predictions, the expected interaction was not significant. Obtaining a larger sample and adding a second presentation of the prime will increase the chances of fleshing out the expected effects.

## **Study 2**

In Study 2, based on results of Study 1, I examined the possibility that shame and guilt have a role in relationship maintenance processes. Shame refers to the negative feelings linked with the self-evaluation that one has done a wrong act, but focused less on the behavior and more on the self in general (Leith & Baumeister, 2008; Lewis, 1971). Shame tends to bring feelings of worthlessness, powerless, and a sense of exposure. Guilt, conversely, refers to the negative affect and feelings following the notion that one has committed a wrong action. It is thought to be focused on a specific behavior or act (Leith & Baumeister, 2008). As there is no actual behavior induced in my studies, I focused on shame, however measured both constructs because of the behavioral tendencies involved in thinking about having sex with someone else.

Research on shame and guilt suggests they motivate prosocial behavior in interpersonal situations (e.g., De Hooge, Breugelmans, & Zeelenberg, 2008). Specifically in romantic relationships, they motivate people to become more attentive and expressive to their partners and their needs (e.g., Baumeister, Stillwell, & Heatherton, 1994; Jones & Kugler, 1993; Tangney, 1992). Romantic partners induce guilt in each other as a way to maintain the relationship, in ways such as leading your partner to spend more time with, or to give more attention to yourself



(Baumeister, et al., 1994; Vangelisti, Daly, & Rudnick, 1991). In Study 1, the thought of having sex with an alternative partner may have increased feelings of shame and guilt. One way to deal with this guilt is by increasing attitudes and behaviors constructive to the relationship (i.e., maintenance mechanisms), such as relationship commitment. As such, highly satisfied participants may have been motivated to expend more effort in maintaining their relationship. In Study 2, I tested this idea using the same study procedure as Study 1 with an added shame and guilt assessment between the prime and the commitment measure.

I conducted Study 2 using the website Qualtrics (<http://www.qualtrics.com>), and the primes and measures were formatted to fit the web software. I again exposed participants to one of four primes: partner sexual, partner nonsexual, alternative sexual, and alternative nonsexual. I then assessed them on shame and guilt and subsequently measured their relationship commitment. My predictions followed those of Study 1: (1) When primed with having sex, thinking of your partner will result in higher commitment. (2) When thinking of having sex with an alternative, those low on satisfaction will show lower commitment, and those high on satisfaction higher commitment. (3) In the nonsexual conditions, high satisfaction would result in higher commitment than low satisfaction, regardless of relational context. In addition, (4) shame and guilt were expected to mediate the associations between sexual and relational context and commitment.

## **Method**

**Participants.** One hundred and twenty eight participants took part in the study either for class credit or a small amount of money on Amazon mTurk. Of the initial sample, 14 were excluded from the analysis because their sexual orientation was not heterosexual, in accordance with Study 1. Three additional people were excluded because they were not in an exclusive

relationship for over three months. Out of the 111 participants, five participants were additionally excluded due to the fact they were outliers on commitment (as defined by having a score that is larger or smaller by three standard deviations or more from the condition's mean). The final sample consisted of 106 participants (72 women). Their age ranged from 18 to 71 years ( $M = 22.$ ) and all were in an exclusive, heterosexual relationship for over three months at the time of the study (length ranged from 3 to 231 months,  $M = 24.81$ ,  $SD = 28.63$ ). Participants had an average of 2.75 relationships in the past ( $SD = 3.50$ ) and 1.50 ( $SD = 2.01$ ) of them which lasted over three months.

**Materials and procedure.** Participants completed the whole study online using the website Qualtrics. After consenting, they were randomly assigned to one out of two conditions. In both conditions, participants were asked to view a picture for two minutes, and mentally engage in it in a specific way. The mental engagement instructions were identical to those in Study 1 and served as the relational context prime. Participants then saw a screen that displayed one out of two kinds of pictures. The type of picture served as the sexual prime, and the pictures were identical to those used in Study 1. The next screen showed questions on the ease of mentally engaging in the picture according to instructions, participants' sexual arousal, and memory of the picture. All of the questions were identical to those used in Study 1.

Participants were then given the State Shame and Guilt Scale (SSGS; Marschall, Sanftner, & Tangney, 1994). The next screen administered the commitment measure (PRQC;  $\alpha = .94$  and  $.95$  for satisfaction and commitment, respectively), followed by the same demographic questions as in Study 1. Finally, participants read an online debriefing statement.

After initially administering the study to 23 participants, I added a screen with instructions that served to prime the participants a second time. This page was positioned

between the SGSS and the PRQC and functioned to refresh participants' memory of the picture prime. This reprime was to counter any guilt-relieving effects that taking the SSGS may have on participants and also to lengthen the effects of the prime. The reprime instructions asked participants to think back to the picture they saw and mentally engage in it again according to the previous instructions for 20 seconds (see Appendix 8 for the original question). Participants in the initial sample ( $n = 22$ ) and the reprime sample ( $n = 84$ ) did not show a difference in the pattern of the results. For example, both samples showed higher sexual arousal in the sexual arousal conditions (all  $t_s > 2.15$ ,  $p_s < .048$ ) and higher commitment in the sexual arousal conditions, although not statistically significant.

***State shame and guilt.*** The SSGS is a 15-item measure that assesses momentary guilt, shame, and pride. Five items each tap into the three emotions. Although shame and guilt can be viewed as individual traits (Leith & Baumeister, 2008), I decided to use this measure because I am interested in the short-term effects my manipulation may have on shame and guilt. The instructions ask participants to rate the items based on how they are feeling "right at this moment" on a 5-point Likert-type scale ranging from 1 (*Not feeling this way at all*) to 5 (*Feeling this way very strongly*). Items for shame include "I feel small" and "I feel humiliated, disgraced." Items for guilt include "I feel remorse, regret" and "I feel bad about something I have done." Instead of directly using words such as "shame" and "guilt," this survey employs terms such as "humiliated" and "regret," which lowers face validity and may consequently decrease any defensive responses. The Cronbach alphas for shame and guilt were .88 and .89, respectively, indicating good internal consistency.

## Results

**Preliminary analyses: Ease of mental engagement and sexual arousal.** To check whether the ease of mental engagement differed among the four conditions, I conducted a two-way ANOVA with sexual prime type (sexual vs. nonsexual/neutral) and relational context (partner vs. alternative) as independent variables and ease of mental engagement as the dependent variable. There were no significant main effects of relational context or an interaction effect of sexual prime type and relational context on ease of mental engagement (all  $F_s < 3.80$ ,  $p_s > .05$ ). Another ANOVA showed a main effect of sexual prime on sexual arousal  $F(1, 107) = 41.76$ ,  $p < .001$ ,  $\eta^2 = .28$ , verifying that the sexual picture significantly increased participants' sexual arousal ( $M = 3.29$ ,  $SD = 1.87$ ) compared to the neutral picture ( $M = 1.44$ ,  $SD = 1.02$ ).

**Main analysis.** As in Study 1, I used the commitment score, which averaged the three commitment items of the PRQC. To test the effects of prime type and relational context on commitment, I again ran a hierarchical regression analysis with commitment as the dependent variable. Like in Study 1, I entered gender in the first step. In the second step, I entered prime type, relational context, and satisfaction. In the third step I again entered the two-way interactions of prime and relational context, prime and satisfaction, and relational context and satisfaction. The three-way interaction of prime, relational context, and satisfaction was entered in the fourth step.

The results revealed a main effect of satisfaction, in that participants with higher satisfaction reported greater commitment,  $B = .39$ ,  $p < .001$ . No other main effects or two-way interaction were significant. However, the three-way interaction of prime, relational context, and satisfaction was significant,  $B = -.49$ ,  $p = .02$  (see Table 2). Probing the three-way interaction by conducting separate analyses on the two prime type conditions (sexual, nonsexual) showed that

when participants imagined having sex, there was a significant interaction of relational context and satisfaction,  $B = -.82$ ,  $p < .001$ . I again used the web-calculator provided by Preacher et al. (2006) to further probe the two-way interaction. The pattern of the interaction mostly replicated the results of Study 1 (but see results regarding Hypothesis 3). In other words, participants low on satisfaction showed higher commitment when sexually primed with their partner ( $M = 5.96$ ,  $SD = .86$ ) compared to an alternative ( $M = 6.08$ ,  $SD = 1.00$ ).

For participants high on satisfaction, thinking of having sex with their partner ( $M = 6.95$ ,  $SD = .12$ ) was not different than thinking about having sex with an alternative ( $M = 6.96$ ,  $SD = .12$ ). This supports Hypothesis 1, showing that both low and high satisfied participants report high commitment when sexually primed with their partner. It also provides supports for Hypothesis 2, showing that being sexually primed with an alternative result in lower commitment only among those low on satisfaction.

When participants were asked to imagine playing badminton with someone, there was no interaction between relational context and satisfaction,  $B = .24$ ,  $p = .34$ . Rather, regardless of relational context, those low on satisfaction reported lower commitment ( $M = 6.18$ ,  $SD = .83$ ) than those high on satisfaction ( $M = 6.88$ ,  $SD = .23$ ),  $B = .47$ ,  $p = .001$ , supporting Hypothesis 3 (see Figure 2).

**Mediation analysis.** To test my fourth prediction—that shame and guilt will mediate the association between prime type, relational context, satisfaction, and commitment—I used Baron and Kenny's (1986) method of testing mediation through three regressions. Although this method has its limitations (e.g., Hayes, 2009), it can specifically test whether the three-way interaction of prime, context, and satisfaction is mediated by shame and guilt. The regressions involve testing whether the three-way interaction term affects shame/guilt, whether the three-way

interaction term affects commitment, and whether shame/guilt affects commitment. I conducted three regressions analyses, the first with prime, context, satisfaction, and their interaction terms predicting shame, the second with those independent variables predicting commitment, and the third with those independent variables and shame predicting commitment. If the effect of the three-way interaction term on commitment is weaker in the third analysis than in the first one, I can conclude there is a significant mediation effect of shame.

I used the sample of 106 participants in the analyses. The first analysis showed that the three-way interaction term of prime, context, and satisfaction did not predict shame,  $B = .785$ ,  $p = .54$ . The second analysis showed that the three-way interaction term affected commitment,  $B = -.49$ ,  $p = .02$ . The third analysis showed that shame did not predict commitment,  $B = .03$ ,  $p = .13$ . The same analyses with guilt showed similar results. The three-way interaction term of prime, context, and shame did not predict guilt,  $B = -1.23$ ,  $p = .43$ . Guilt also did not predict commitment,  $B = .01$ ,  $p = .40$ . These results suggest that shame and guilt also do not mediate the association between prime, context, satisfaction, and commitment.

## **Discussion**

The results of Study 2 supported most of my hypotheses and partially replicated the results of Study 1. When participants thought of having sex, those who thought of their partner reported higher commitment than those who thought of an alternative, as in Study 1, supporting my first prediction. However, this was further moderated by satisfaction. For participants low on satisfaction, being aroused by their partner resulted in higher commitment compared to being aroused by an alternative. There was no significant difference between arousal source conditions in participants high on satisfaction, which supports my second prediction. When participants imagined playing badminton with someone, regardless of whether they thought of their partner

or not, those low on satisfaction showed lower commitment, and those high on satisfaction showed higher commitment. This contrasts with the non-association between satisfaction and commitment in same condition of Study 1, but in line with my third prediction from that study.

One plausible explanation for the contrasting results of the two studies for the nonsexual partner condition would be that because the reprime measure was included in this study, the participants engaged more in the prime than in Study 1. Also, because the high commitment reported by less satisfied participants in the nonsexual partner condition was not replicated in the second study, it may have just been an anomaly. Furthermore, the shame and guilt measure may have somehow affected participants' responses to the commitment measure ("order effects;" e.g., Krosnick & Alwin, 1987). For example, answering items such as "I feel like apologizing, confessing" may have alleviated the negative affect resulting from shame and guilt, eliminating their effects on commitment. To counter this order effect, future studies should consider using only one item or randomizing the order of the shame and guilt items with the commitment items.

### **General Discussion**

The main purpose of the current project was to better understand the effects of sexual arousal on commitment, and specifically examine the moderating effects of relational context (i.e. the source of sexual arousal) on relationship goals and commitment in particular. In addition, I examined whether these effects are moderated by relationship satisfaction. The two studies demonstrate that the relational context does matter for the effects of sexual arousal on commitment, such that being sexually aroused by one partner is more likely to increase commitment than being sexually aroused by an alternative. These effects were moderated by satisfaction, such that those high on satisfaction reported high commitment regardless of what condition they were in. This implies that people who are highly satisfied will activate

maintenance goals even when they are sexually aroused by an alternative mate. The results of the second study further showed that, when people are sexually aroused by an alternative, those low on satisfaction tend to report lower commitment. This implies that those who are less satisfied in their romantic relationships will activate initiation goals when exposed to sexually arousing alternative mate. These results regarding sexual arousal by attractive alternatives follow those of previous researches. For example, Maner and colleagues (2011) found that participants in committed relationships showed more avoidance to stimuli including available and attractive alternative mates. However, the results of the current research go beyond existing studies by comparing the effects of sexual priming by one's partner to that of an alternative mate on the activation of relationship goals.

My findings extend those of Gillath and colleagues (2008), who report that activating the sexual system increase cognitions that facilitate relationship initiation and maintenance, such as the willingness to self-disclose and willingness to sacrifice for one's partner. Replicating Gillath et al's findings regarding sexual arousal leading to the activation of initiation goals and maintenance goals; I showed that this effect depended on whether the source of arousal was one's partner or not, and whether satisfaction in the relationship was high or low. By differentiating the source of arousal, and measuring relationship satisfaction, my studies show that sexual arousal may help or hamper the relationship.

Contrary to my expectations, shame and guilt did not account for the higher commitment reported by highly satisfied participants in the sexual alternative condition. These results could suggest that relationship maintenance goals are separate from emotions such as shame or guilt. Alternatively, it may be the case that the sample of 106 participants was too small to detect an effect. A power analysis using G\*Power 3 (Faul, Erdfelder, Lang, & Buchner, 2007) showed that



in order to detect an effect of the three-way interaction of prime, context, and satisfaction on shame or guilt, I would need about 170 and 225 participants, respectively. This suggests that an analysis done on a larger number of subjects is required in order to make more conclusive claims on this mediating effect of shame or guilt.

The current results can be explained using different theoretical frameworks. First, as mentioned in the introduction, Lydon et al.'s (1999; 2003) calibration hypothesis which states that threats to the relationship are weighed against one's commitment may be of use here. When a threat is weaker or equal to one's strength of commitment, relationship maintenance processes occur; however, when the level of threat surpasses the level of commitment, the individual succumbs to it and maintenance processes are less likely to take place. Using Lydon et al.'s theory, one could argue that participants who think about having sex with an alternative are encountering a threat to the relationship. In the current studies, I assumed so, and further presumed that those high on satisfaction have higher commitment to begin with (e.g., Le & Agnew, 2003). This higher commitment overcame the threat represented by the alternative mate, resulting with the activation of maintenance processes. Conversely, those low on satisfaction are expected to have relatively lower initial commitment, and this lower level is not high enough to counter the threat. In turn, maintenance processes are not being activated for them. Rather, these people low on satisfaction likely activate initiation processes. In order to directly test this option, future studies should assess initial levels of satisfaction and commitment as well as commitment after the primes.

An alternative explanation for my findings can be drawn from Brehm's theory of motivational intensity (Brehm & Self, 1989). Being committed to your relationship partner is personally and socially desirable (e.g., Treas & Giesen, 2000), participants are hence likely to

have the goal or motivation to maintain their relationship in general and specifically in the current studies when they are sexually primed with an alternative mate. This is true mainly for participants high on satisfaction, who are likely to perceive their relationship as worth maintaining, even in the face of high cost/effort. In turn, their maintenance goals are continuously activated, as reflected in higher level of commitment. Conversely, participants low on satisfaction, who supposedly value their relationship less, are likely to perceive maintenance as requiring too much effort for an unworthy outcome. In turn, they may decide to forfeit maintenance goals and activate initiation goals as reflected in lower levels of commitment.

### **Limitations**

My studies have several limitations. First, satisfaction was not measured before the manipulations. Although the sexual and relational primes did not have an effect on satisfaction, it would have been better to measure satisfaction before the participants were subjected to the priming procedure. In addition, participants' religiosity, which I did not measure or control for, may have affected their responses to sexual primes, as religiosity is related to sexual attitudes (Lefkowitz, Gillen, Shearer, & Boone, 2004). Also, the results of the two studies are not completely consistent, especially in the partner context conditions. This may be due to measurement error from the different mediums through which the studies were conducted (offline vs. online) or due to differences in study procedure (inclusion of shame and guilt measure in Study 2, and repriming).

Another limitation has to do with the use of guided imagery instructions to prime participants with sexual arousal by their partner or an alternative. This is obviously different from sexual arousal from the actual person. Ideally, I would have brought their partner or an

alternative into the lab and used them to sexually arouse the participants to increase the validity of my results.

A third limitation has to do with the control prime. Badminton may not have been a completely neutral prime, which would explain why the results of the nonsexual and sexual alternative conditions were similar. Also not necessarily a sexual activity, playing a sport together as a couple may imply high intimacy. Although I chose the badminton prime to match in level of general arousal and activeness with the sexual prime, finding and using a more “neutral” prime may yield better results in future studies.

Finally, my sample consisted of young college students mostly in their late teens or early twenties. Most of my participants were in their first or second romantic relationship that had lasted over three months. This sample may have a different understanding of relationship commitment than an older sample. Recruiting older samples in future studies will allow me to further generalize my results to the broader population.

### **Implications and Conclusions**

Despite these limitations, the current work is the first to show that the effects of sexual arousal on commitment are indeed moderated by the source of arousal, highlighting the need to specify whether the source of arousal is the partner, alternative, or a non-specific source when studying these issues. Being sexually aroused by one's partner may have different effects on relationship processes such as commitment and satisfaction than being aroused by an attractive alternative. Without distinguishing the source of arousal, it will be difficult for research on sexual arousal and relationship processes to yield coherent and comprehensive findings. In addition, one's satisfaction with the relationship also significantly affects which relationship processes that sexual arousal excites.

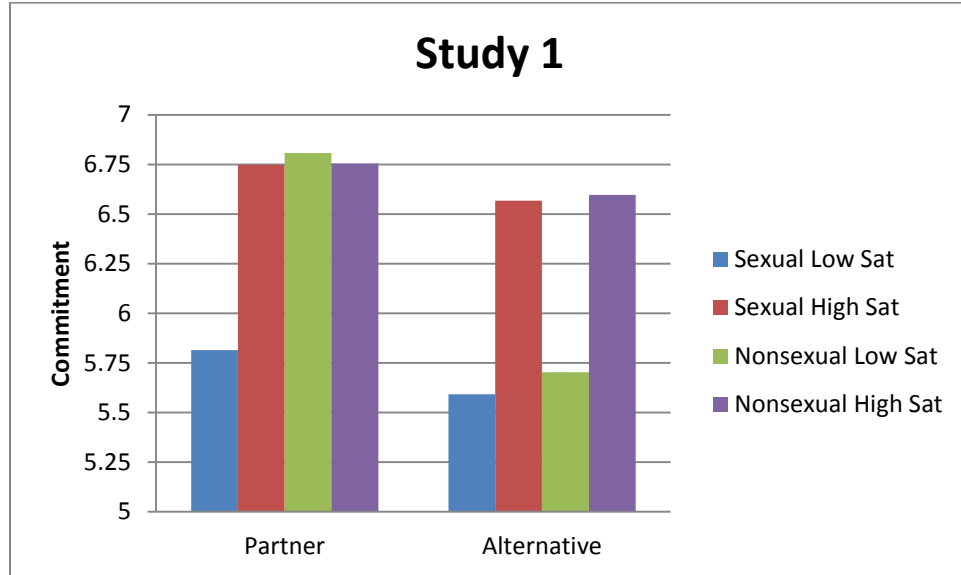


Figure 1. Study 1 results (high and low satisfaction defined as .5 SD below and above the mean).

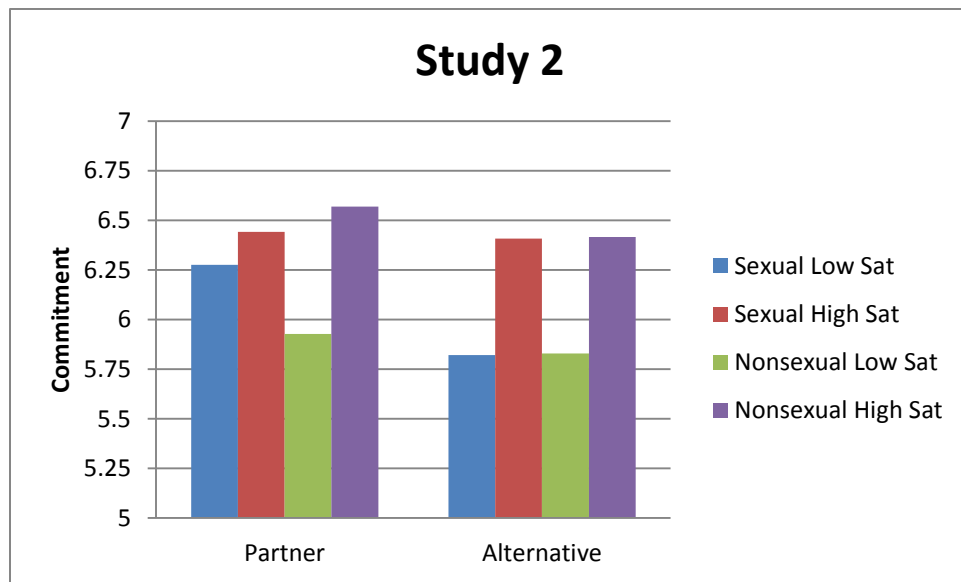


Figure 2. Study 2 results.

	Predictor	$\Delta R^2$	B
Step 1		.09*	
	Gender		.60
Step 2		.70***	
	Gender		.10
	Relational context		.30*
	Sexual prime		-.17
	Satisfaction		.76***
Step 3		.04**	
	Gender		.20
	Relational context		2.31**
	Sexual prime		-2.17**
	Satisfaction		.66***
	Relational x Sexual		-.27
	Satisfaction x Sexual		.35**
	Satisfaction x Relational		-.30**
Step 4		.03**	
	Gender		.26*
	Relational context		5.13***
	Sexual prime		-.82
	Satisfaction		.75***
	Relational x Sexual		-4.58**

Satisfaction x Sexual	.12
Satisfaction x	-.76***
Relational	
Satisfaction x	.71**
Relational x Sexual	
<hr/>	
Total $R^2$	.86***

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 1. Study 1 hierarchical multiple regression analysis predicting commitment.

	Predictor	$\Delta R^2$	B
Step 1		.05	
	Gender		.25
Step 2		.46***	
	Gender		.14
	Relational context		-.02
	Sexual prime		.02
	Satisfaction		.46***
Step 3		.45***	
	Gender		.15
	Relational context		.50
	Sexual prime		.14
	Satisfaction		.53***
	Relational x Sexual		.12

	Satisfaction x Sexual			-0.03
	Satisfaction x			-0.10
	Relational			
Step 4			.48***	
	Gender			.19
	Relational context			-1.11
	Sexual prime			-1.44
	Satisfaction			.41***
	Relational x Sexual			3.11*
	Satisfaction x Sexual			.23
	Satisfaction x			.17
	Relational			
	Satisfaction x			-.49*
	Relational x Sexual			

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\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

*Table 2.* Study 2 hierarchical multiple regression analysis predicting commitment.

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### Footnotes

<sup>1</sup>I did not report the analyses with the interaction terms including gender because although there are gender differences in sexuality, this was not the focus of my studies; in fact, I sought to find effects across genders. Regardless, an additional analysis with gender, relational context, sexual prime, and their interaction terms predicting commitment showed a main effect of gender, in that women were higher in commitment than men,  $B = 1.09$ ,  $p = .04$ , but no significant interaction effects (all  $ps > .18$ ).

<sup>2</sup>A four-step hierarchical regression analysis with satisfaction as the dependent variable and sexual prime, relational context, commitment, and the interaction terms of those variables as predictors (the allocation the predictors in each step similar to that of the main analysis) revealed no significant effects of any of the predictors on satisfaction.

<sup>3</sup>I decided to report unstandardized regression coefficients because in the case of nominal variables, they do not depend on sample sizes (whereas standardized regression coefficients do, making those harder to interpret; Cohen, Cohen, West, & Aiken, 2003).

## **Appendix 1: Picture Instructions**

### **Relational context condition:**

You will now be asked to view a picture.

We want to see how easy it is for you to mentally engage in it according to our instructions.

*When viewing the picture, please imagine that the man/woman in the picture is you, and that the woman/man in the picture is your partner. It is important to our study that you engage in the picture this way.*

After viewing, we will ask how easy it was to mentally engage in the picture and also test your memory on the picture.

I will put the picture face-down on the desk, and leave the room to grant you privacy. Once I leave, please pick up the picture and start mentally engaging in it. After time is up, I will knock on the door. Is everything clear to you?

### **Nonrelational context condition:**

You will now be asked to view a picture.

We want to see how easy it is for you to mentally engage in it according to our instructions.

*When viewing the picture, please imagine that the man/woman in the picture is you, and that you know the woman/man in the picture as someone you have been seeing every morning as you went to class. It is important to our study that you engage in the picture this way.*

After viewing, we will ask how easy it was to mentally engage in the picture and also test your memory on the picture.

I will put the picture face-down on the desk, and leave the room to grant you privacy. Once I leave, please pick up the picture and start mentally engaging in it. After time is up, I will knock on the door. Is everything clear to you?

## Appendix 2: Sexual and Neutral Primes

### *Sexual prime*



### *Neutral prime*



**Appendix 3: Questions regarding mental engagement and memory of picture**

1. How easy was it to mentally engage in the picture as you were told to?

1                      2                      3                      4                      5                      6                      7

Not at all

Somewhat

Extremely

2. As of now, how sexually aroused do you feel?

1                      2                      3                      4                      5                      6                      7

Not at all

Somewhat

Extremely

3. Please describe the picture, being as detailed as possible, to the best of your memory.

#### Appendix 4: Perceived Relationship Quality Components (PRQC) inventory commitment and satisfaction scales

Please answer the following statements.

*Satisfaction (Titles of categories are omitted in actual administration)*

1. How satisfied are you with your relationship?

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

2. How content are you with your relationship?

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

3. How happy are you with your relationship?

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

*Commitment*

4. How committed are you to your relationship?

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

5. How dedicated are you to your relationship?

1	2	3	4	5	6	7
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Not at all

Somewhat

Extremely

6. How devoted are you to your relationship?

1

2

3

4

5

6

7

Not at all

Somewhat

Extremely

### Appendix 5: Brief Mood Introspection Scale (BMIS)

INSTRUCTIONS: Circle the response on the scale below that shows how well each adjective or phrase describes your present mood.

(definitely do not feel) (do not feel) (slightly feel) (definitely feel)

XX

X

V

VV

---

Lively            XX X V VV

Drowsy            XX X V VV

Happy            XX X V VV

Grouchy            XX X V VV

Sad                XX X V VV

Peppy             XX X V VV

Tired             XX X V VV

Nervous            XX X V VV

Caring            XX X V VV

Calm                XX X V VV

Content            XX X V VV

Loving             XX X V VV

Gloomy            XX X V VV

Fed up             XX X V VV

Jittery            XX X V VV

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Active             XX X V VV

**Appendix 6: Demographic Questions**

Please write down your age: \_\_\_\_\_

Please indicate your gender: Male / Female

How long have you been in your current relationship? \_\_\_\_\_ years \_\_\_\_\_ months

How many other romantic relationships have you had in the past? \_\_\_\_\_

Of those prior relationships, how many have lasted over 3 months? \_\_\_\_\_

Please indicate your ethnicity:

\_\_\_\_ American Indian or Alaskan Native

\_\_\_\_ Asian

\_\_\_\_ Black or African American

\_\_\_\_ Hispanic or Latino

\_\_\_\_ Native Hawaiian or Other Pacific Islander

\_\_\_\_ White

\_\_\_\_ Other (Please specify: \_\_\_\_\_ )

What do you think the purpose of this study was?

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**Appendix 7: Study 1 post-debriefing questions**

1. Please indicate which picture you viewed: (Circle the letter)

- a) Picture of man and woman having sex
- b) Picture of man and woman playing badminton

2. Please indicate how you were asked to view the picture:

- a) Think of the people as you and your partner
- b) Think of the people as you and someone you see walking to class

3. Was there anything awkward or uncomfortable when you viewed the picture?

4. How well do you think you followed our instructions when you viewed the picture? (Please circle)

1	2	3	4	5	6	7
Not well at all						Very well

5. How difficult was it to follow our instructions when you viewed the picture?

1	2	3	4	5	6	7
Very easy						Very difficult

6. Please write down what you were thinking when you mentally engaged in the picture:

**Appendix 8. Study 2 reprime instructions.**

Before answering the next set of questions, please think back to the picture that you saw and mentally engage in it again according to the previous instructions for 20 seconds.